

FLIGHT

The
**AIRCRAFT
ENGINEER
&
AIRSHIPS**

First Aero Weekly in the World.

Founder and Editor: STANLEY SPOONER

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport

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CONTENTS

	PAGE
Editorial Comment	
Airships	283
Exit Seaplanes	284
Italian Semi-Rigid Airship "N.1"	285
Dietrich-Gobiet Sport Monoplane	286
Progress of Big Flights	288
The 400 h.p. Lorraine-Dietrich Engine	290
Aero Golfing Society Meeting	291
Royal Aero Club Official Notices	292
Personals	293
Light 'Plane and Glider Notes	294
Royal Air Force	295
R.A.F. Intelligence	295
In Parliament	295
Society of Model Aeronautical Engineers	296

EDITORIAL COMMENT.



UNDER our Parliamentary heading this week will be found a statement made by the Prime Minister on May 14, in answer to a question put by Sir Samuel Hoare, ex-Secretary of State for Air, regarding the present Government's airship policy. From Mr. Ramsay MacDonald's reply it will be seen that the Labour Government has decided to reject the "Burney scheme," and has formulated in its place a scheme whereby the work of constructing new airships will be divided between the Government and a private undertaking. Briefly, the present scheme appears to be as follows: The Government proposes to authorise the Air Ministry "to initiate forthwith a comprehensive programme of lighter-than-air research and experiment at Cardington, including full-scale experiments with one of the existing ships, which will be reconditioned for the purpose, and to undertake the early construction of a new airship of a capacity of 5,000,000 cubic ft. Simultaneously, the Air Ministry will give the Airship Guarantee Company [This company is that in which Commander Burney is interested.—Ed.] the first offer of a contract for the construction of a second ship for commercial purposes."

On the financial side of the question the Prime Minister stated that, in place of the initial outlay of £4,800,000 contemplated for the Burney scheme, and to be spread over a period of fifteen years, the new scheme would, owing to the clause providing for an option for the acquisition of the Guarantee Company built airship by the constructors, probably only involve an expenditure of £1,200,000 for the years 1924-25, 1925-26, and 1926-27. With reference to this statement by the Prime Minister, Sir Samuel Hoare pointed out that the two figures were not comparable, as those relating to the Burney scheme referred to the construction of six ships, while the present Government's scheme included the construction of only two.

It is somewhat difficult to form any very clear idea of the real plans contemplated by the Government, and new features may have been brought to light by

DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in the following list:—

- 1924
- May 29 Wilbur Wright Lecture, Royal Aeronautical Society: "Fuel Economy in Flight," by Lieut.-Col. H. T. Tizard, A.F.C.
- .. 31-June 9 Third Czecho-Slovak International Aeronautical Exhibition, Prague
- June 15 Gordon Bennett Balloon Race, Belgium.
- .. 21 F.A.I. Conference Opens, Paris.
- July 24-Aug. 10 Tour de France for Light 'Planes.
- Aug. 4 Aerial Derby at Lympne
- Sept. 8-13 Light 'Plane Competitions at Lympne
- Oct. 2 Aero Golfing Society. Autumn Meeting, at Moor Park Golf Club, for A.G.S. Challenge Cup presented by Cellon (Richmond) Ltd.

the time this week's issue of FLIGHT is published, as the Secretary of State for Air, Lord Thomson of Cardington, will make a further statement in the House of Lords on May 21. As, however, FLIGHT goes to press before that statement is made, it is necessary to make certain reservations in regard to the comments which follow.

To begin with, we have always maintained, and have repeatedly stated in these columns, that the construction of an airship of 5,000,000 cubic ft. capacity will present very serious problems, and that the construction cannot be undertaken with any degree of certainty until further research has been carried out. In this respect, therefore, we are inclined to welcome the Prime Minister's announcement that it is intended to resume lighter-than-air research. On the other hand, the period that has elapsed since airship work was dropped is so great that it seems very doubtful if the existing ships are worth reconditioning. Where, we think, the blunder was committed in the first place was in dropping the airship programme altogether, and the Government responsible must be regarded as the one to bear the blame for our present highly unsatisfactory position in airship matters. However the subject is attacked now, it will cost a great deal more to make up the leeway than it would have done to continue in a fairly modest way while we still had an airship personnel, operational as well as constructional. It will be no easy matter to get together, after all these years, trained staffs and workmen, not to speak of crews for the handling of airships once they are built.

It is, therefore, with a certain amount of misgiving that we view the intention of providing a complete duplication of airship manufacturing plants, and Mr. MacDonald's plea, that to do so will admit of rapid expansion, leaves us rather unconvinced. Duplication always means waste, and if the Government had the courage of their convictions they should, if necessary, have said definitely that an airship programme was such a vital item in the Empire's policy that it was considered advisable to do all the work in a Government establishment. Mr. MacDonald raised the question of monopolies, and indicated that the virtual conferring upon the Burney group of a monopoly would be avoided by the present scheme. Yet in the case of heavier-than-air transport the Government passed a monopoly scheme readily enough.

To us it appears that on balance the policy outlined by the Prime Minister is a little worse than the original scheme. To begin with, the business of the Government, or in this case of the Air Ministry, is to help in every way it can, by research and experiment,

but there its functions should end, as far as the technical side is concerned. To build in competition with private enterprise is not the proper function of the Air Ministry. We had a sufficiently terrifying example of that in the Royal Aircraft Factory (as it then was) at Farnborough, when "the best brains of the country" were attempting to monopolise design and construction of aeroplanes. Let the Air Ministry get on with airship research, by all means—it ought never to have dropped it—but let private enterprise collect what little is left of our expert airship personnel and with that nucleus, for it can be little else by now, look after the actual construction. There is not a shadow of doubt that the construction of an airship by a Government establishment will cost—leaving out the question of efficiency—a great deal more than the building of a similar ship by a private firm, not to mention the unhealthy duplication of manufacturing plants, whose facilities for rapid expansion may never be required. As we have already said, it may be that Lord Thomson (of Cardington, remember) will put the case for the Government's policy better than did the Prime Minister. Unless he does, we think the present scheme will need a lot of modifications before it is acceptable.

Exit Seaplanes

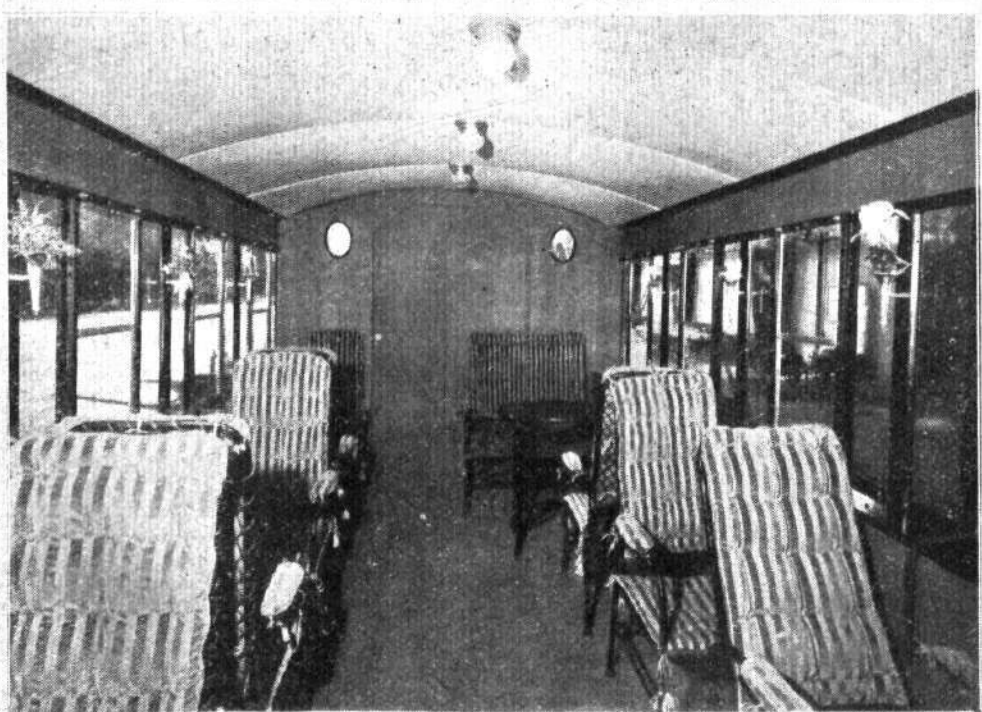
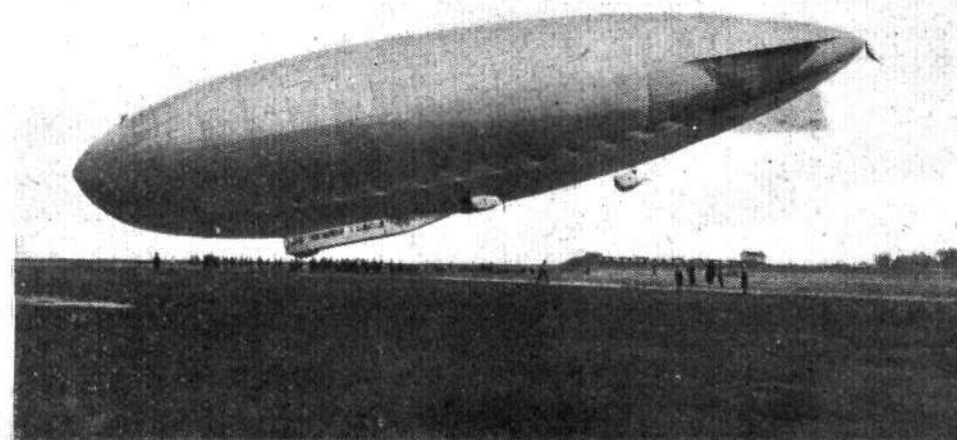
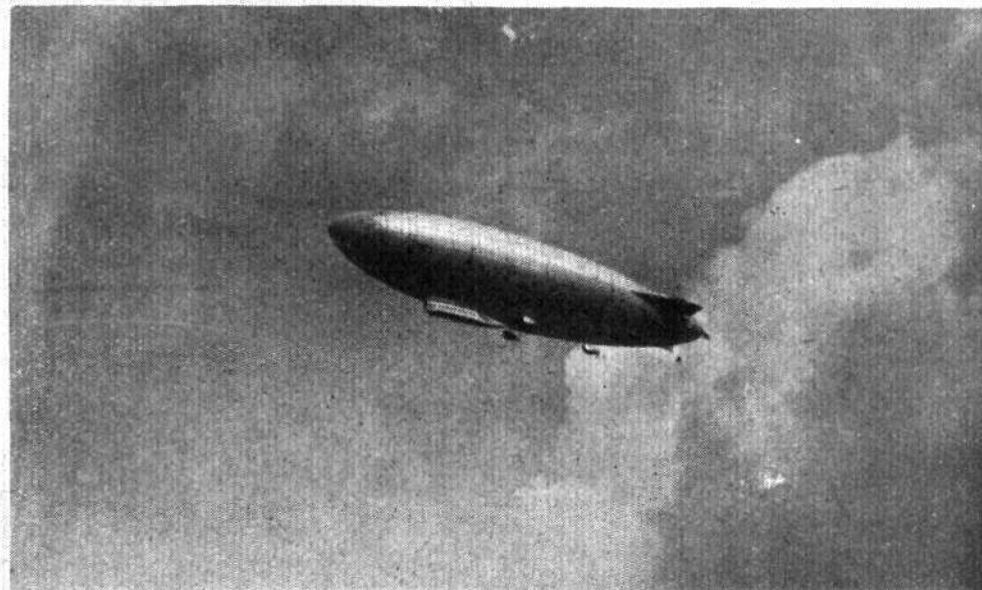
The announcement in the Royal Aero Club Notices that the Joint Standing Committee of the R.Ae.C. and the S.B.A.C. has decided to recommend that the race around England for the King's Cup be open to all machines will not come as a surprise in view of the fact that, as recently stated in FLIGHT, the Air Council had not accepted the suggestion that service seaplanes should be allowed to compete in the race, which it was then intended to make a seaplane race. As we pointed out at the time, unless manufacturers who had completed and in flying trim machines built for the Air Ministry in time for the race were permitted to enter these, there was no sort of a chance of holding a seaplane race, as the number of privately-owned seaplanes could be counted on the fingers of one hand. Apparently the Air Council has not changed its mind, and so this year's King's Cup Race will be for a heterogeneous collection of antiquated machines which the public has seen year after year, instead of a set of the latest types of seaplanes of which the nation might be justly proud. The Air Ministry has added another "encouragement" to the long list which has resulted in such a feverish production of machines that we can scarcely rake up a sufficient number to hold a meeting that will equal in interest an ordinary Saturday afternoon meeting at Hendon.

PRAGUE INTERNATIONAL AERO EXHIBITION.

Next week's issue of "FLIGHT"—May 29—will be the first of the Prague Aero Exhibition numbers. This will give main particulars of the British Aviation Industry under classified headings, easy for reference and invaluable as a guide to the firms now active in Aeronautical circles. The following issues of "FLIGHT" (June 5, etc.) will deal more directly with the exhibits at Prague—British and Foreign—as reviewed by our special representatives.

NOTE.—The issues of May 29 and June 5 will be at the Exhibition, and will be specially obtainable in Prague.

Advertisement announcements intended for these issues should be forwarded, WITHOUT DELAY, to the Advertisement Manager, "FLIGHT," 36, Great Queen Street, Kingsway, W.C.2.



THE ITALIAN SEMI-RIGID AIRSHIP "N.1": Since our description of the Italian "N" type airship appeared in "Flight" for March 20 last, we have received some further photographs of this ship from Engineer Umberto Nobile, of the Italian National Airship Factory. Four of these we reproduce above, those on the top, showing the "N.1" in full flight (left) and landing (right). Note the man climbing along the top of the nose of the hull. At the bottom are seen two interior views of the cabin—that on the right being a bedroom, the first, we believe, ever installed in an airship.

THE DIETRICH-GOBIET SPORT MONOPLANE

30-35 H.P. Haacke Engine

A GERMAN "FORD OF THE AIR"

AMONG the newcomers into the German aircraft industry is the Dietrich-Gobiet Flugzeugwerk A.G., of Cassel, who commenced by building small biplanes, not unlike the Fokker D.VII in general lines. One such machine was exhibited at

the machines to be shown will be the D.P. VII shown in the accompanying illustrations.

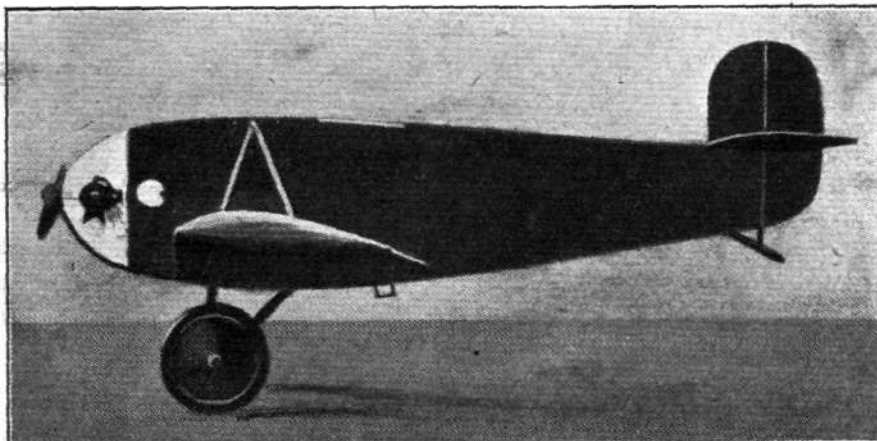
The D.P. VII is a low-wing monoplane with high-lift wing section. In spite of the fact that the wing is in one piece,



THE DIETRICH-GOBIET D.P. VII : Front view.

the Gothenburg Aero Show last year. This firm has now produced a small monoplane, intended to be a "Ford of the air," inasmuch as it can be built very cheaply in quantities and uses an engine of relatively low power, although the

and runs right through the fuselage, external bracing is employed, consisting of a pair of inverted Vee struts on each side, much after the manner of the de Havilland 53. Owing to the continuous spars, however, the stress distribution is of course, quite different in the Dietrich-Gobiet wing.

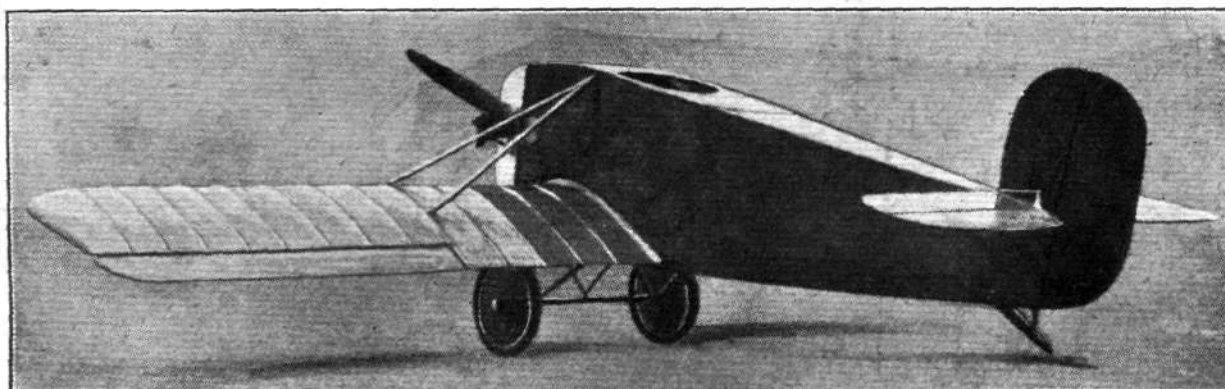


THE DIETRICH-GOBIET D.P. VII : Side view. Designed for cheap and rapid production, this machine will, it is hoped, become a "Ford of the air." An example may be exhibited at the Prague Aero Show

The fuselage is, it will be seen, of rather unusual depth. This is probably a result of a desire on the part of the designers to obtain as good an angle as possible for the wing struts, and also comes in useful in allowing the wing to be pushed through the fuselage above the bottom longerons. A somewhat similar arrangement is employed in the Udet machines, but there the lower longerons have a hinged section which is opened to admit the wing. This necessitates raising the machine off the ground on trestles in order that the undercarriage may be swung out of the way. In the Dietrich-Gobiet, on the other hand, the opening in the sides of the fuselage is large enough to admit the wing section, and the wing can therefore be inserted or withdrawn without interfering with the undercarriage at all. It is stated that the wing can be removed by the

30-35 h.p. two-cylinder opposed air-cooled Haacke engine fitted places the machine rather outside the light 'plane class. Incidentally, the Dietrich-Gobiet firm is believed to be exhibiting at Prague, and it seems probable that one of

crew of the machine without outside assistance in a few minutes, and for transport a couple of padded trestles, normally carried inside the fuselage, are placed above the fuselage and the wing secured to them by steel straps. The



THE DIETRICH-GOBIET D.P. VII : Three-quarter rear view.

overall width of the machine is then only the width of the tail plane.

Constructionally the Dietrich-Gobiet D.P. VII follows Fokker practice to some extent, in that the fuselage is built up of steel tubes braced with piano wire. The covering is the usual doped fabric. Welding is used as in the Fokker machines for joining struts to longerons. Apart from its depth, there is nothing unusual in the fuselage, which is of rectangular section. The cockpit has room for two occupants if necessary, the passenger straddling a box seat behind the pilot, after the fashion of the pre-War Morane-Saulnier monoplanes.

The Haacke two-cylinder flat-twin engine is mounted in the nose of the fuselage, and it will be observed that a particularly "clean" entry is provided for the air, the upper part only of the cylinders projecting.

The undercarriage is of the usual V-type, of streamline section steel tubes, but lateral bracing is by diagonal struts instead of wire.

As distinct from the fuselage construction, the wing is an all-wood structure, with three-ply and spruce box spars, and wooden ribs. The ailerons are of considerable length, extending inward to the point of attachment of the wing-bracing

struts. The controls are of usual type, and all control cables pass inside wing and fuselage respectively.

It is understood that, the flying tests with the experimental machine having proved satisfactory in every way, the machine will now be put into quantity production. In this respect the Germans appear to have advanced farther than we, inasmuch as several makes have been, or are being, put into quantity production. Thus the Mark Monoplane, which resembles the D.P. VII in that it has a steel tube fuselage, but differs from it in being a parasol monoplane, has been produced in fairly large numbers for some time.

The main characteristics of the Dietrich-Gobiet D.P. VII are as follows: Length o.a. 5.4 m. (17 ft. 8½ ins.); span 8 m. (26 ft. 3 ins.); height 1.95 m. (6 ft. 5 ins.); area 10.625 sq. m. (114.5 sq. ft.). Weight empty 180 kg. (396 lbs.); useful load 160 kg. (352 lbs.); total loaded weight 340 kg. (748 lbs.). Power loading 9.6 kg./h.p. (21.15 lbs./h.p.); wing loading 32 kg./sq. m. (6.52 lbs./sq. ft.). Speed 115 km./hour (71.5 m.p.h.). Ceiling 2,400 m. (7,875 ft.). Range 350 km. (217 miles). Fuel capacity sufficient for 3 hours. Petrol consumption for 100 km. (62 miles), 8 kg. (17.6 lbs.), oil consumption in three hours 2.5 kg. (5.5 lbs.). It will be noticed that the ratio of useful load to empty weight is very good.

Royal Air Force Pageant

THE fifth Royal Air Force Aerial Pageant, which will take place at the London Aerodrome, Hendon, on Saturday, June 28, when it is hoped that some of the members of the Royal Family will be present, will embody several new features. Instituted in 1920, the Pageant now forms an integral and important part of the annual training of the Air Force, and provides a valuable stimulus to keenness and efficiency in the many squadrons taking part in the flying displays. The programme has been devised to show in an interesting form the many-sided activities of the Royal Air Force, and to illustrate the progress which has been achieved

in the technical development of aircraft. This year, owing to the growth of the Air Force on the home defence and naval sides, it has been found possible to introduce new features which should make the display more comprehensive and attractive.

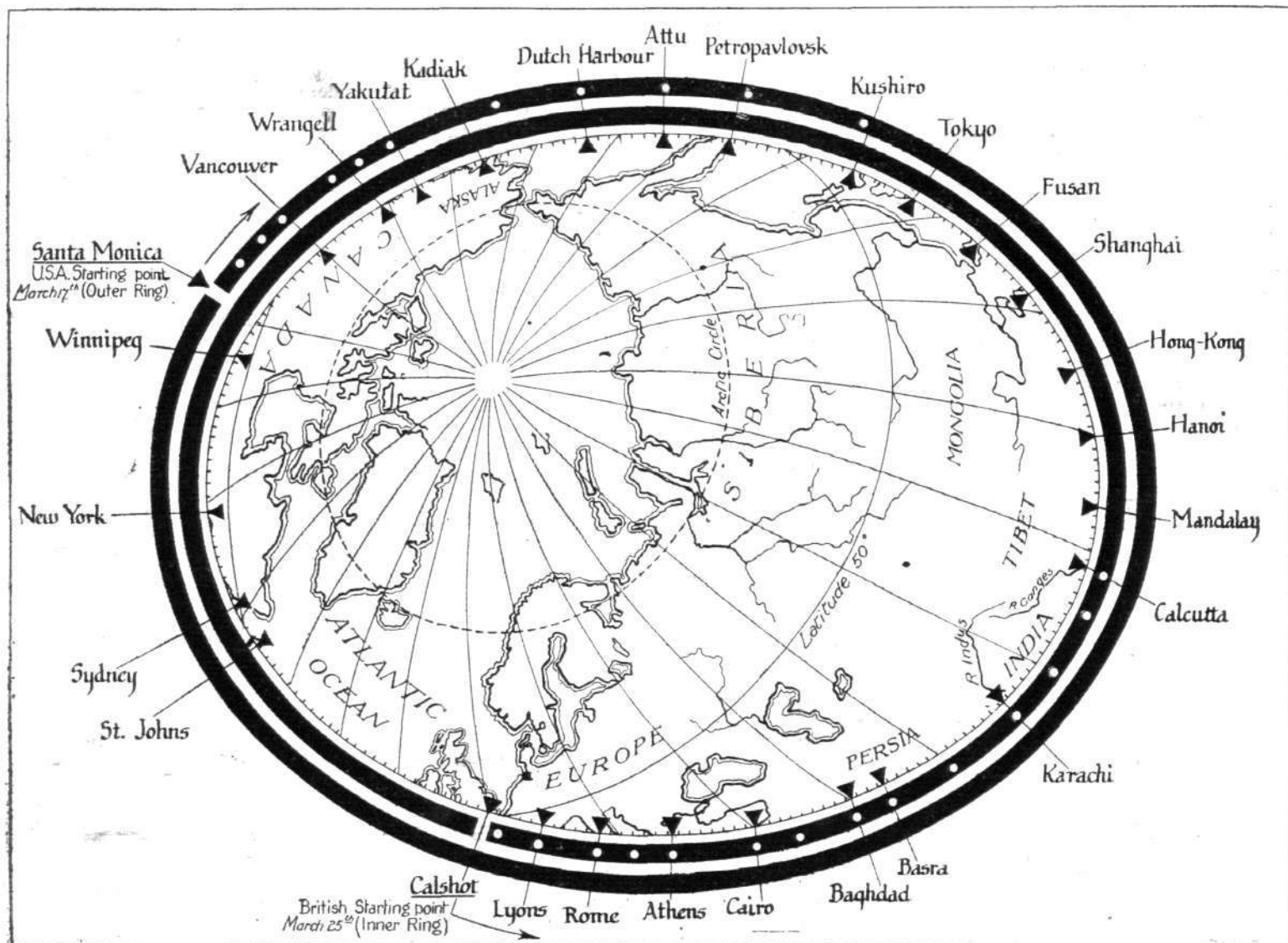
Space limitations make it quite impossible to illustrate fully the work of the flying service either at the British Empire Exhibition or at the Royal Tournament, and it is at the Aerial Pageant that the public at home and visitors from the Dominions are afforded the opportunity of observing at first hand the progress of service flying since the conclusion of the War.



AERO GOLFING SOCIETY SPRING MEETING: Above, Sir Henry White-Smith and Col. Bristow playing for the tenth hole. Below, Lieut.-Comdr. Perrin and Capt. T. Hinshelwood on the thirteenth green.

PROGRESS IN THE BIG FLIGHTS

ROUND-THE-WORLD FLIGHTS



ROUND-THE-WORLD FLIGHTS: This sketch-map has been prepared to show at a glance the position of the British and American crews as known up to Tuesday evening. It is proposed to publish this map from time to time, and to mark on the two dark rings by white spots the approximate position reached by the British and American aviators. The direction followed by the Americans is clockwise (i.e., east to west), and that of the Vickers "Vulture" anti-clockwise (west to east). The Americans left Santa Monica, California, on March 17; the British crew left Calshot (Southampton) on March 25. Reports on Tuesday stated the Americans (except Maj. Martin) had reached Yotorofu Island (N. Japan), while the British were at Calcutta.

THE past week's outstanding feature in connection with the flights round the world was undoubtedly the splendid flight accomplished by the Americans in their 900-mile dash across the Pacific Ocean to Japan. This section of the world-route was considered to be the most critical and dangerous of all, and now it has been successfully and safely passed the American team (which now consists of the three Douglas-Liberty machines piloted by Lieuts. L. H. Smith, L. Wade and E. H. Nelson, and their mechanics) should, given reasonable luck, make good progress over the remainder of the route. They have, however, the possibility of encountering the dreaded monsoons of the East still before them—for they are now about four weeks behind their schedule time.

As regards the British flight, Squadron-Leader MacLaren, having received a temporary engine from Iraq (a high-compression Napier "Lion"), has got as far as Calcutta, where he is now awaiting the installation of a new "Lion" which was sent out to him from England. As reported last week, he arrived at Nasirabad from Parlu on May 13. He had originally intended to proceed to Allahabad that same day but a leaky radiator delayed the flight until the next morning. The departure from Nasirabad on the 14th was made at 6 a.m., and six hours later they landed at the Bamraoli aerodrome, just outside Allahabad, having flown a distance of about 500 miles. Weather conditions during this lap were good until they approached Allahabad, when they encountered some severe "bumps."

At Allahabad Squad.-Ldr. MacLaren met with further bad luck. Having got over the radiator troubles, the start scheduled for 5.30 a.m. on May 15 was once again delayed, this time owing to water in the petrol. This was accounted for in a cable received from Squad.-Ldr. MacLaren by the proprietors of "Shell," which reads as follows:—

"Am entirely satisfied that petrol supplied India up to standard Shell aviation. Delay Allahabad due to accumulation sand and water in gravity tank through storms.—MACLAREN."

However, this trouble was put aright by the following morning, May 16, when at 5.18 a.m. the journey was resumed. After an uneventful though somewhat cold flight of 488 miles, they landed at Dum Dum aerodrome, Calcutta, at 11.15 a.m. As previously stated, they are remaining at Calcutta until the new engine from England is installed. The reason for changing engines—the present one is running splendidly—is that the high-compression type requires a special benzole fuel, which will not be obtainable along future stages of the flight.

Now let us follow the progress made by the American team. After waiting for several days at Chicagoff, Attu Island, for fine weather, Lieuts. Smith, Wade and Nelson started off for the big flight across the Pacific, in spite of the fact that they had received a warning by wireless from the U.S. destroyer "Ford," that the weather conditions were unfavourable. Reports are decidedly vague as to the times

of arrival and departure, but apparently they left Chicagoff on May 16 and arrived at Paramushiru Island (one of the Kurile Islands at the foot of the Kamschatka peninsula) on Saturday, May 17, having covered a distance in the neighbourhood of 900 miles in twelve hours. During the flight they encountered strong winds, and a heavy snowstorm forced them to alight off Behring Island (500 miles from Paramushiru), when they had to wait six hours for the weather to clear. The crews of the American and Japanese destroyers which were awaiting the arrival of the flyers at Paramushiru, were considerably surprised when they saw the three Douglas biplanes—Lieut. Smith's leading—suddenly appear out of the mist.

PARIS-TOKIO FLIGHT

DURING the past week Lieut. Pelletier d'Oisy has continued his remarkable "dash" to Tokio, and is now rapidly approaching his journey's end. He resumed his flight from Saigon—where he arrived on May 11—to Hanoi on May 13, arriving at the latter place at 2.40 p.m. after a very stormy flight of 800 miles, lasting 7 hours 20 minutes. Having arrived safely at Hanoi, Lieut. d'Oisy decided, as had been previously arranged, to stay here a few days for the purpose of thoroughly overhauling his Breguet XIX A2 "Sesquiplan" and installing a new engine which was awaiting him at Hanoi. The old engine is to have its various parts sealed, and will be sent back to France for examination by experts.

At this stage of the flight Lieut. d'Oisy had covered a distance of 8,700 miles in 20 days. His flying time over the distance was 74 hours, which gives an average speed of 118 m.p.h. It is not surprising, therefore, to hear that in recognition of this splendid performance M. Maginot, French Minister for War, has decided to place Lieut. d'Oisy on the list of officers for promotion to the rank of captain, while his mechanic, Sgt. Besin (not Vesin, as previously reported) is to figure on the next list of awards of the Legion of Honour.

On May 19 they started off again, and after a flight of seven hours arrived at Yetorofu Island (North Japan) some 500 miles from Paramushiru.

The American team, of four Douglas biplanes (400 h.p. "Liberty"), consists of Major F. L. Martin, Lieuts. L. H. Smith, L. Wade and E. H. Nelson, and mechanics. They started from Santa Monica on March 25.

The British flight is made up of Sqdn.-Ldr. A. S. C. MacLaren, Flying Officer J. Plenderleith and Sgt. Andrews, on a Vickers (Napier "Lion") amphibian flying boat.

Respective mileage (approximate) completed to date: American, 5,603 miles; British, 6,400 miles.

On May 18, Lieut. d'Oisy's machine was ready for flight, with the new Lorraine-Dietrich engine installed, so an early start from Hanoi was made, and another 500 miles completed, which brought them to Canton in six hours. It is reported that "President" Sun Yat-sen was present at the aerodrome when Lieut. d'Oisy landed.

On May 20 Lieut. d'Oisy's wonderful flight came to a tragic, but it is hoped temporary, conclusion. He left Canton at 7 a.m. and arrived at Shanghai, 800 miles distant, at 4 p.m. On landing at the Kiangwan golf course, however, the machine ran into a bunker, overturned, and was wrecked. D'Oisy and his mechanic were fortunately unhurt. Efforts are being made to dispatch a new machine from Hanoi.

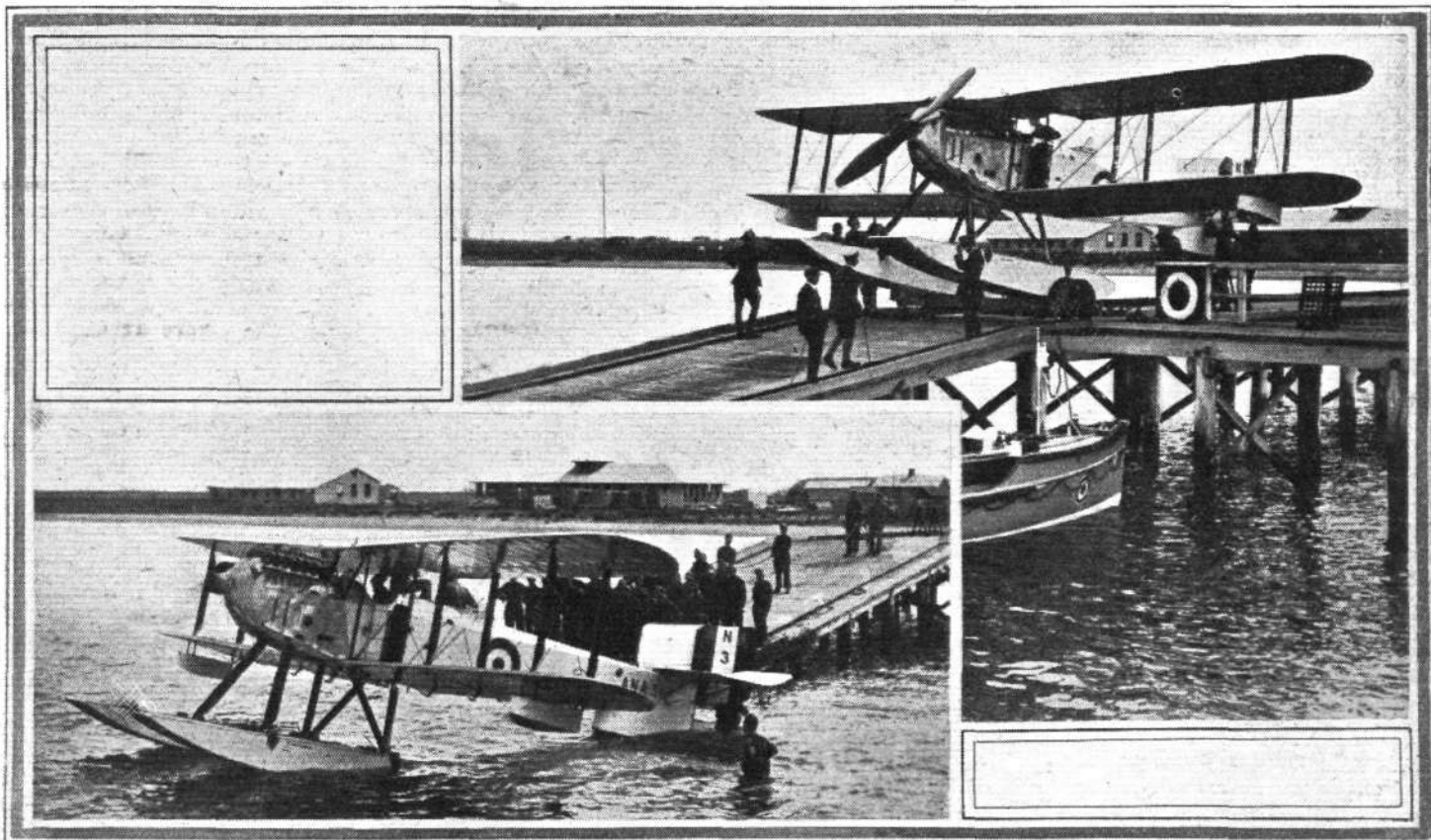
Lisbon-Macao Flight

It is probable that the Portuguese airmen, Capt. Brito Paia, Lieut. Sarmento and Mechanic Gouvea, whose machine was wrecked by a cyclone at Pipar on May 7, will soon be able to continue their journey to Macao. A message from Karachi states that an aeroplane is being placed at their disposal by the R.A.F. in India.

ROUND AUSTRALIA FLIGHT

WHILE the Round-the-World and the Paris-Tokio flights have, deservedly, been receiving some considerable notice, the really magnificent flight round Australia, just completed,

by Wing-Commander Goble and Flying Officer MacIntyre, on a Fairey III-D seaplane (Rolls-Royce engine) has not, we think, been given the prominence it truly merits. The reports



THE FLIGHT AROUND AUSTRALIA: The photographs above show the Fairey III-D seaplane, with Rolls-Royce "Eagle IX" engine, on which Wing-Commander S. J. Goble, D.S.O., O.B.E., D.S.C., and Flying Officer L. E. MacIntyre, of the Royal Australian Air Force, have just succeeded in completing their 9,000 miles flight around Australia. The performance is one worthy of ranking among the foremost flights ever made, and reflects the greatest credit not only on the gallant officers who made it, but also on the machine and engine. The photographs show the machine at Point Cook, near Melbourne.

received on the progress day by day of this 9,000-mile flight have been very brief and incomplete. Yet the risk and hazard entailed have been just as great—if not greater—as those obtaining in the other big flights, for it must be remembered that a very large portion of the route lay over great distances of uninhabited and unknown territory where in the event of a forced landing, it would be difficult, if not impossible, to get into touch with civilisation. Also, except for one or two places, no preparation in the way of dumps of spares, etc., had been made *en route*.

It will be remembered they started from Melbourne on April 6, and flew to Sydney (450 miles). The next stage was Sydney-Gladstone, and on April 13 they had reached Townsville, Queensland. A few days later, they got to Thursday Island, and then followed a difficult flight of 400 miles across the Carpentaria Gulf to Elcho, thence on to Darwin. Two more "hops" brought them to Broome, after which they proceeded to Onslow, and then to Carnarvon. Here, 5,000 miles on their journey, they experienced their first engine trouble, which delayed them a few days. On May 12-13, they resumed the flight to Perth and Albany, where we left them last week.

From Albany, they flew on to Israelite Bay, a distance of

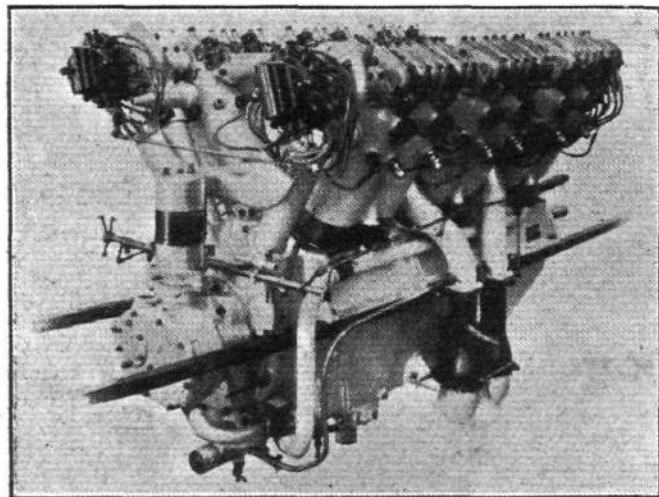
400 miles, and on May 16 they accomplished a flight over the most difficult and dangerous section—650 miles across the Australian Bight to Ceduna in five hours. The next day they reached Port Lincoln, and on May 18 they left Port Lincoln at 11 a.m., and arrived at Beachport at 2.30 p.m. On the following day, May 19, they brought the flight to a successful conclusion by flying on to Melbourne—their starting point—landing at St. Kilda amid the cheers of thousands of spectators. They were welcomed by the Earl of Stradbroke, Lieut.-Gen. Sir H. Chauvel and the Federal Ministers. Air-Chief-Marshall Sir Hugh Trenchard sent them a cable of congratulation on behalf of the Air Council.

In an interview, Wing-Commander Goble said:—"We are tired and dead beat. It was not the flying we felt, although that was not a picnic. The long night watches knocked us out most, for we did not get a decent sleep during the whole flight. We expected it to be a tough enterprise, but it was infinitely worse than we had imagined it would be. Perhaps the worst stage was that between here and Thursday Island, but all were fairly bad, though please understand we are not complaining. Throughout it was a grand show, and we always thought ourselves lucky to be in it."

THE 400 H.P. LORRAINE-DIETRICH ENGINE

IN view of the remarkable flight from Paris to Hanoi (Indo-China) made by Lieut.-Pelletier d'Oisy, the following notes on the Lorraine-Dietrich engine, which helped to carry him and his Breguet so successfully some 8,700 miles in 20 days, may be of special interest.

The engine fitted in the Breguet XIX A2 sesquiplan on which Lieut. d'Oisy accomplished this flight, is the Lorraine-Dietrich 370-400 h.p. high-compression model, having 12



THE 370-400 H.P. LORRAINE-DIETRICH ENGINE:
 The type of engine fitted to the Breguet XIX A.2 used by Lieut. Pelletier d'Oisy on his great flight.

cylinders in V formation. It is of the water-cooled type, and each block of six cylinders is set at an angle of 60°. The cylinders are cast in pairs, each pair being enclosed in a separate water-jacket, and are bolted to the aluminium crankcase through the agency of flanges formed at the basis of the cylinders.

Inlet and exhaust valves are located in the cylinder heads, and are actuated by rocker arms operated by separate overhead camshafts. Each camshaft is driven from the crank-

shaft through a double set of bevel pinions and an intermediary shaft located at the rear end (*i.e.*, opposite the airscrew end) of the engine and parallel to the cylinder axis. Camshafts and driving shafts are enclosed.

The crankshaft is of the six-throw type, the forward end projecting through the crankcase being formed to receive the conical air-screw-boss fitting.

The connecting rods are of the concentrically-articulated type, having a large bearing surface. The crankcase is of aluminium, the lower portion forming the oil sump, and the lubricating pump, located in the bottom of the crankcase, is of the rocking-drum type without valve-flaps.

Cooling-water circulation is effected by means of a centrifugal pump, located at the lower rear end of the crankcase, below and driven from the crankshaft. All water connections are very accessible.

Two twin Zenith carburettors, of the spray and constant level type with altitude control, are employed. These are mounted low down on each side of the crankcase, the induction pipes passing up from the carburettors between the cylinders to the manifolds on the inner sides of the cylinders.

Ignition is by two high-tension magnetos driven by gearing off the forward or airscrew end of the crankshaft. The distributors are mounted on the ends of the camshafts. An engine starting system is provided, this being of the carbureted air type, the distributor for which being mounted on the end of one of the camshafts. Provision is made for driving the engine revolution indicator and the machine-gun control from gears mounted on the camshaft casings above the valve gears.

The following is a specification of the 400 h.p. Lorraine-Dietrich engine:—

Bore	120 mm. (4.7 ins.)
Stroke	170 mm. (6.7 ins.)
R.P.M. (maximum)	1,700.
R.P.M. (normal)	1,500-1,600.
Maximum H.P. (at 1,700 r.p.m.)	410.
Weight (with starter, airscrew hub)	410 kgs. (904 lbs.)
O.A. length	1.493 m. (4 ft. 10 ins.)
O.A. width	0.783 m. (2 ft. 10 ins.)
O.A. height	1.029 m. (3 ft. 4 ins.)
Petrol consumption	240 gr. (0.528 lb.) per h.p./hr.
Oil consumption	25 gr. (0.055 lb.) per h.p./hr.

M. Emile Deutsch Dead

WE regret to announce the death of M. Emile Deutsch de la Meurthe, who died after a long illness on May 18, at Quimper. M. Emile Deutsch, like his brother Henry Deutsch (who died a few years ago), was a well-known personality in the world of aviation and motoring, his generous gifts and prizes contributing no small amount to the progress of aviation.

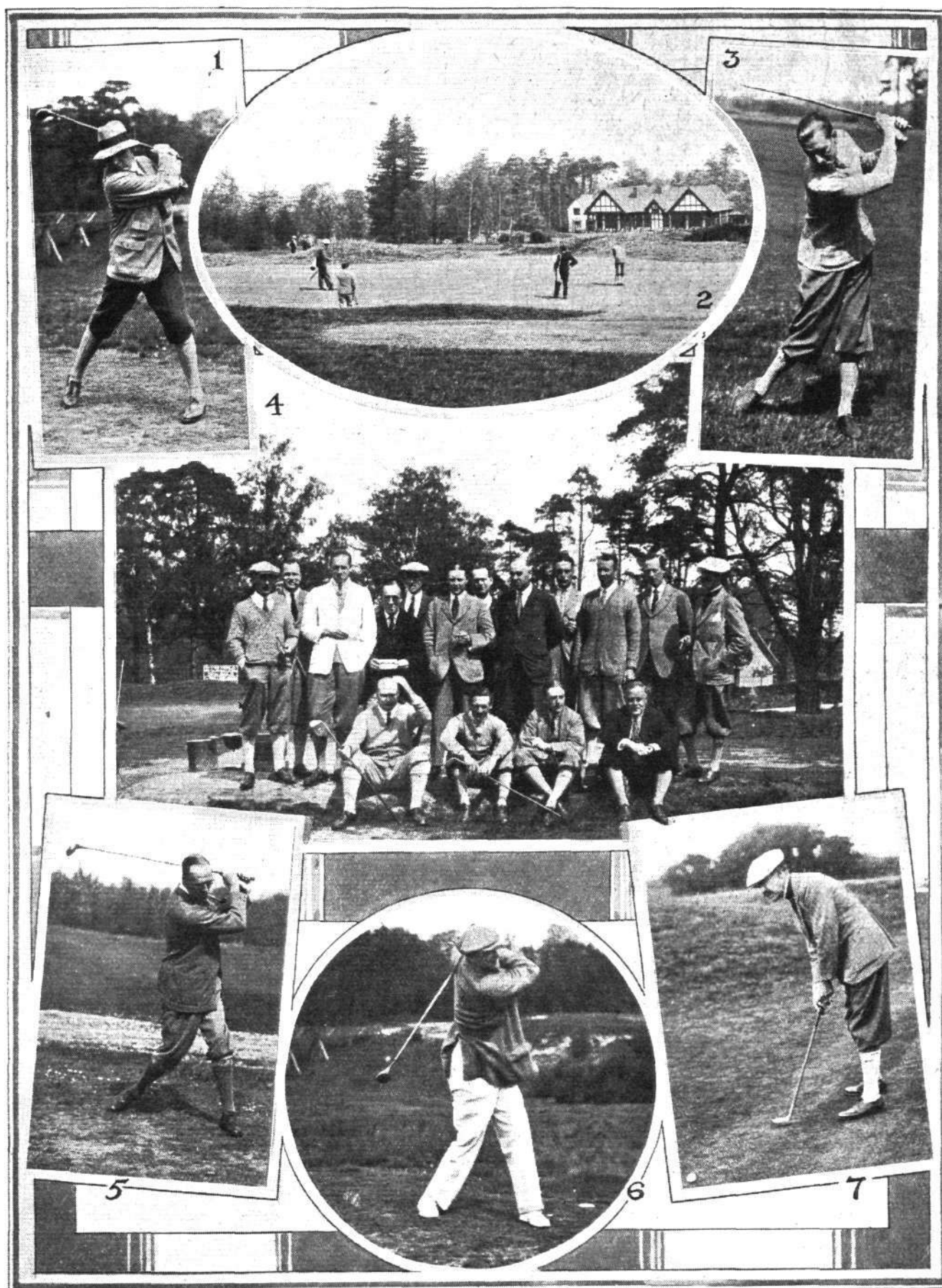
The 1924 Wilbur Wright Lecture

WE would remind our readers that this year's Wilbur Wright lecture will be delivered before the Royal Aeronautical

Society at the Royal Society of Arts on Thursday next, May 29. The meeting will commence at 8.30 p.m., and the paper, which is being read by Lieut.-Col. H. T. Tizard, A.F.C., is entitled "Fuel Economy in Flight."

Institute of Transport, Bristol Congress, 1924

ON Friday of next week, May 30, Colonel Bristow is reading a paper on "Aerial Transport" at the above Congress, when a representative audience is expected. Sir Henry White-Smith, C.B.E., is the chairman of the local Committee, in whose hands the arrangements for the entire programme are vested.



AERO GOLFING SOCIETY SPRING MEETING: Held at Addington on May 15, this meeting was a great success. In the morning members competed for the Challenge Cup presented by FLIGHT, while the afternoon was devoted to four ball foursomes against bogey. The photographs above show: 1, Lieut.-Col. F. McClean driving from the fifteenth tee; 2, Major Mayo on the fourth green; 3, Mr. Wallace Barr making an approach shot to the fifth green. In the group, 4, reading from left to right, Mr. Frank Mead, Mr. P. Garton (winner of the FLIGHT Cup), Mr. Wallace Barr, Mr. P. Barry, Mr. H. Burroughes, Capt. T. Hinshelwood, Paymaster Capt. F. Lenn, R.N., Sir Henry White Smith, Mr. Russell Felgate, Major Mayo, Lieut.-Col. Shelmerdine, Mr. F. Cumbers, Col. Bristow, Capt. A. Newman, Comdr. W. Briggs, R.N., Lieut.-Comdr. Perrin. In 5, Mr. P. Barry driving from second tee. 6, Mr. C. R. Fairey driving from the fifteenth tee; and 7, Mr. F. Cumbers putting at the fourth hole.

THE ROYAL AERO CLUB OF THE U.K.

OFFICIAL NOTICES TO MEMBERS.

TECHNICAL COMMITTEE

A MEETING of the Technical Committee was held on Wednesday, May 7, 1924, when there were present:—Lieut.-Col. M. O'Gorman, C.B., in the Chair, Griffith Brewer, Major J. S. Buchanan, Major R. H. Mayo, Lieut.-Col. H. W. S. Outram, C.B.E., and the Secretary.

Automatic Timing Apparatus.—The Committee considered the proposal of the F.A.I. to hold a competition for automatic timing apparatus for timing Speed Records. It was decided to recommend that each country should hold a competition, and that the Royal Aero Club should approach the Air Council suggesting that a substantial prize should be offered for the best automatic self-registering timing device.

Aviators' Certificates.—The amendment to the Air Navigation Act dealing with Pilots' Licences was considered, and it was decided that in future candidates for Aviators' Certificates should have carried out at least two hours' solo flying before undergoing the necessary tests.

RACING COMMITTEE

A meeting of the Racing Committee was held on Wednesday, May 14, 1924, when there were present: Major-Gen. Sir W. S. Brancker, K.C.B., in the Chair; Group-Capt. F. W. Bowhill, C.M.G., D.S.O., R.A.F.; Lieut.-Col. W. A. Bristow, Lieut.-Col. M. O. Darby, Lieut.-Col. John D. Dunville, C.B.E.; Lieut.-Col. F. K. McClean, A.F.C.; Lieut.-Col. A. Ogilvie, C.B.E.; Sir Guy Standing, K.B.E.; Howard T. Wright. In attendance: F. Tymms, Air Ministry, and the Secretary.

The King's Cup.—The report from the Joint Standing Committee of the R.Ae.C. and S.B.A.C. was considered, together with correspondence from the S.B.A.C. It was decided to recommend that the Race round England should be confined to one day only and that it should be open to all types of aircraft.

Aerial Derby.—The regulations for the Aerial Derby to be held at Lympne on August Bank Holiday, August 4, 1924, were approved.

Light Aeroplane Race.—It was decided to hold a Handicap Race for Light Aeroplanes limited to 1,100 c.c. at Lympne on the same day as the Aerial Derby for Prizes amounting to £125.

INTERNATIONAL RACE MEETING

(Under the Competition Rules of the Royal Aero Club and the Regulations of the Fédération Aéronautique Internationale)
at Lympne Aerodrome, nr. Hythe, Kent, on
August Bank Holiday, Monday, August 4, 1924

SUPPLEMENTARY REGULATIONS—1

The Aerial Derby, 1924

Prizes

The following prizes will be presented by the Royal Aero Club:—

Fastest time (winner of the Aerial Derby), Trophy and £300; 2nd prize, £100.

Handicap:—1st prize, Trophy and £100; 2nd prize, £50; 3rd prize, £25.

The winner of the Aerial Derby will be the entrant of the competitor who shall have properly completed the course in the fastest time.

The winner of the Aerial Derby Handicap will be the entrant of the competitor who, having properly completed the course, is the first to cross the finishing line, i.e., fastest handicap time. The minimum speed at which aeroplanes will be handicapped is 90 m.p.h.

Entries.—The entry fee is £10. Entries close on Wednesday, July 16, 1924, at 12 noon. Late entries will be received up to 12 noon on Monday, July 21, 1924. Late entry fee £15.

Course.—The distance is approximately 200 miles, and will consist of four circuits of a course of approximately 50 miles, starting and finishing at Lympne Aerodrome. The particulars of the course will be announced later.

The Holiday Light Aeroplane Handicap

Prizes

1st prize, £100; 2nd prize, £25.

The race is open to any aeroplane, the total piston displacement of the engine or engines of which does not exceed 1,100 c.c.

Entries.—The entry fee is £2. Entries close on Wednesday, July 16, 1924, at 12 noon. Late entries will be received up to 12 noon on Monday, July 21, 1924. Late entry fee £3.

Course.—The distance is approximately 50 miles. The particulars of the course will be announced later.

Qualification of Competitors.—The Competitions are open to persons of any nationality holding a licence issued by any Aero Club affiliated with the Fédération Aéronautique Internationale.

Organisation.—The Competitions shall be conducted by the Royal Aero Club under the Competition Rules of the Royal Aero Club and the Regulations of the Fédération Aéronautique Internationale.

Air Navigation Regulations.—Competitors must comply with the Air Navigation Regulations in force.

HOUSE COMMITTEE

A MEETING of the House Committee was held on Monday, May 12, 1924, when there were present:—Mr. Ernest C. Bucknall, in the Chair, Major H. Graeme Anderson, Major Herbert J. Corin, Lieut.-Col. F. K. McClean, A.F.C., Mr. D. C. MacLachlan, Mr. J. Stewart Mallam, Capt. L. V. Pearkes, and the Secretary.

FINANCE COMMITTEE

A MEETING of the Finance Committee was held on Monday, May 12, 1924, when there were present:—Lieut.-Col. F. K. McClean, A.F.C., in the Chair, Mr. Ernest C. Bucknall, Lieut.-Col. M. O. Darby, Mr. J. Stewart Mallam, and the Secretary.

COMMITTEE MEETING

A MEETING of the Committee was held on Wednesday, May 14, 1924, when there were present:—Lieut.-Col. F. K. McClean, A.F.C., in the Chair, Group-Capt. F. W. Bowhill, C.M.G., D.S.O., R.A.F., Major-Gen. Sir W. S. Brancker, K.C.B., Lieut.-Col. M. O. Darby, Lieut.-Col. A. Ogilvie, C.B.E., Mr. T. O. M. Sopwith, and the Secretary.

Election of Members.—The following new Members were elected:—

Flying Officer John Francis Tufnell Barrett.

C. H. Biddlecombe.

Squadron-Leader Raymond Collishaw, D.S.O.

James Percy Carre Cooper.

Flying Officer Bruce Gerdyne Drake.

Flying-Officer Neill Charles Ogilvie Forbes.

Lieut.-Col. Charles Brehmer Heald, C.B.E.

Pilot-Officer Owen Rupert Pigott.

Flying-Officer Gilbert V. Wheatley.

House Committee.—Report of Meeting of House Committee, held on May 12, 1924, was received and adopted.

It was decided to close the Club House during the first fortnight in August for redecorating.

Racing Committee.—Report of Meetings of Racing Committee held on May 6 and 14, 1924, was received and adopted.

The following items were included in the Report:—

1. **The King's Cup.**—Draft Regulations for proposed Race Round England open to any type of aircraft.

2. **Aerial Derby.**—Decision to hold the Aerial Derby at Lympne, on August Bank Holiday.

3. **Wembley Exhibition.**—Decision not to hold a Race Meeting in connection with Wembley Exhibition.

Joint Standing Committee.—Report of meetings of Joint Standing Committee of R.Ae.C. and S.B.A.C., held on April 16 and May 1, 1924, was received and adopted.

Finance Committee.—Report of meeting of Finance Committee held on May 12, 1924, was received and adopted.

Technical Committee.—Report of meeting of Technical Committee held on May 7, 1924, was received and adopted.

Customs Carnet for Touring Aircraft.—The Carnet prepared by the F.A.I. for aircraft touring in foreign countries was received and approved.

It was decided that the Club should give the necessary guarantees for British touring aircraft entering foreign countries represented on the F.A.I.

Aviators' Certificates.—The following Aviators' Certificates were granted:—

7955. Francis Frederick Walby Hall .. April 5, 1924.

7956. John Rhodes Cobb .. April 10, 1924.

7957. Howard Deighton Lay .. Dec. 9, 1918.

7958. James Patrick Cyril Philipps .. April 30, 1924.

Racing Fund.—Letter from Sir Charles Wakefield, subscribing £500 to the Racing Fund for the year 1924, was read.

A donation of £100 from Lieut.-Col. F. K. McClean, Chairman of the Club, was also reported.

A unanimous vote of thanks was passed to Sir Charles Wakefield and Lieut.-Col. F. K. McClean for their very generous contributions to the Fund.

Air League Challenge Cup.—It was decided to ask the Air Ministry to give permission for R.A.F. units to compete for the Cup on August Bank Holiday at Lympe on the occasion of the Aerial Derby.

ROYAL AERO CLUB RACING FUND

The following donations have been received:—

Mr. Samuel Samuel, M.P.	£ 1,000
Sir Charles Wakefield, Bart. (Messrs. C. C. Wakefield and Co., Ltd.)	500
Lieut.-Col. F. K. McClean, A.F.C.	100
Sir Basil Zaharoff, G.B.E.	21

The Committee of the Royal Aero Club has allocated the following sums from the Fund:—

Aerial Derby	£ 575
Light Aeroplane Handicap	125
The King's Cup	300
Schneider Cup	250
Grosvenor Cup	50

Offices: THE ROYAL AERO CLUB,

3, CLIFFORD STREET, LONDON, W. 1.

H. E. PERRIN, Secretary.

Personals

Married

Maj. JOHN OGILVIE DAVIS, R.A.F., M.C., Croix de Guerre with palm leaves, younger son of the late Theodore Davis, M.D.Lond., F.R.C.S.Eng., of Clevedon, Somerset, and Mrs. Theodore Davis, of 1, Elystan Mansions, London, S.W.3, was married on March 29 at Valparaiso, Chile, to MARIA ESTHER ARTAZA MATTA, younger daughter of Don Eladio Artaza and the late Doña Esperanza Matta de Artaza, of Viña-del-Mar, Valparaiso, Chile.

On May 7 Flight-Lieut. R. DE HAGA HAIG, R.A.F., son of Colonel H. de Haga Haig, late R.E., and Mrs. Haig, was married very quietly on May 7 at St. James's, Piccadilly, to VALÉRIE, daughter of Mr. and Mrs. ROBERT HUDSON, of Westwood, Tuxford, Notts. Mr. Gray, a brother officer of the bridegroom in the R.A.F., was best man.

To be Married

The marriage arranged between Flight-Lieut. BUTCHER and

Miss HAWORTH-BOOTH will take place at the Parish Church, Cottingham, East Yorks, on Wednesday, June 11.

The marriage arranged between Flight-Lieut. KENNETH BUCHANAN LLOYD, A.F.C., R.A.F., younger son of Major and Mrs. T. W. LLOYD, of New Quay, Wales, and NELLIE SANFORTH, eldest daughter of Mr. and Mrs. HERBERT JEFFERIES, of The Mead, Long Ashton, Somerset, will take place at 2 p.m. on Saturday, June 7, at All Saints', Long Ashton. The ceremony will be followed by a reception at The Mead.

Items

The Duke and Duchess of Sutherland will lend Hampden House, Green Street, for the reception after the marriage on Monday, June 2, at St. Margaret's, Westminster, of Air-Marshall Sir John Salmond, with the Hon. Monica Grenfell, elder daughter of Lord and Lady Desborough. The bridegroom's brother, Air-Vice Marshal Sir Geoffrey Salmond, will be best man.

An Avro for the Arctic

WHEN the British Arctic Expedition, under the leadership of Mr. George Binney, sails from Newcastle shortly it will include in its equipment an Avro seaplane for reconnaissance work and surveying. Part of the object of the expedition, to which Oxford University has given its name, will be to explore and survey North Eastland, an island lying north-east of Spitzbergen, and it is intended to use the Avro seaplane in conjunction with sledge parties for mapping this unknown locality. The machine is one of the well-known Avro 504N type, with Armstrong-Siddeley "Lynx" engine, an example of which is to be exhibited at the Prague Aero Show. Certain modifications have, however, been made, such as the substitution of floats for the wheel under-carriage.

The floats have been specially designed to act, if necessary, as skis on the snow. The fuselage has been extended to form an enclosed cabin for the protection against cold of the occupants. The machine will carry a light sledge, and provisions for five weeks.

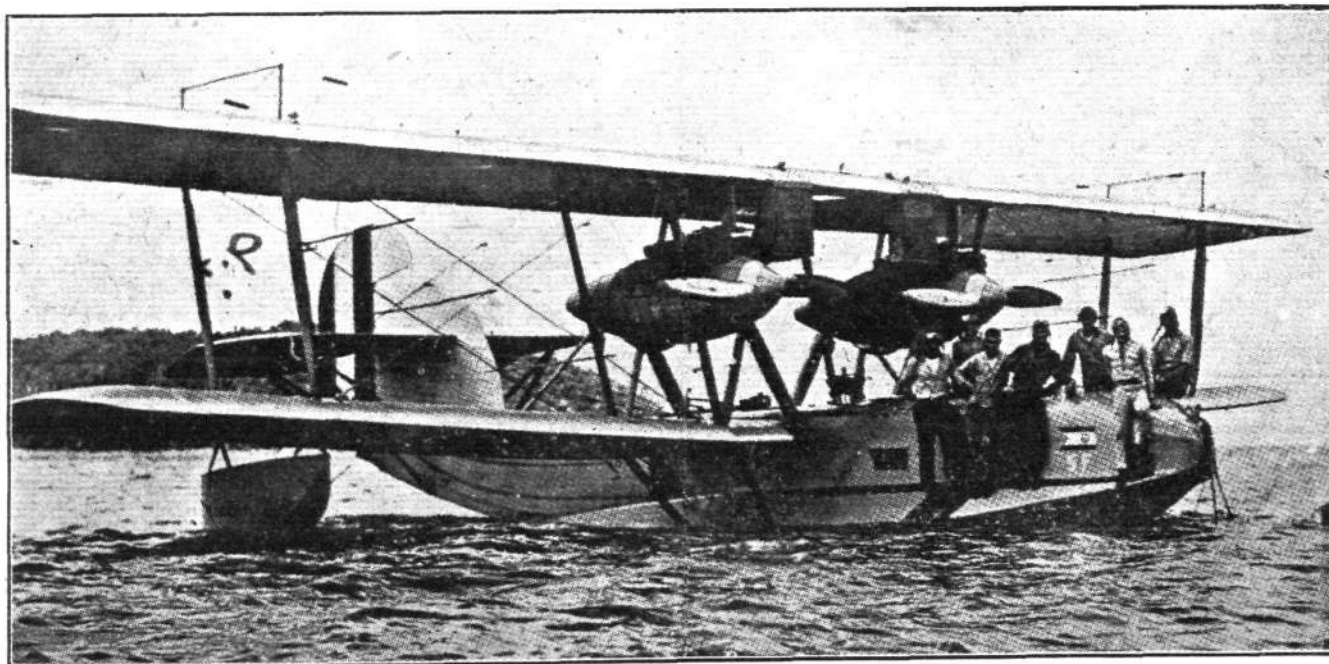
Dunkerque Dinner

It is proposed to hold the annual dinner of the R.N.A.S., Dunkerque, and 5th Group, R.A.F., at the Royal Air Force Club on Wednesday, June 25, 1924, at 7.30 p.m.

Air Commodore C. L. Lambe, C.B., C.M.G., D.S.O., will take the chair.

Will those officers who wish to attend kindly communicate with the above Officer, Halton Camp, Bucks.?

The price of the dinner will be 12s. 6d. a head.



A MODERN U.S. NAVY SCOUTING TWIN-ENGINE FLYING BOAT: This flying boat, known officially as the P.N.7, is an improvement on the famous F.5.L. flying boat. It retains the latter's hull, but is fitted with high-performance wings, as a result of which the overall span has been reduced by some 20 ft.

Two 550 h.p. Wright T.2 heavy duty engines are fitted.

LIGHT 'PLANE AND GLIDER NOTES

Those wishing to get in touch with others interested in matters relating to gliding and the construction of gliders are invited to write to the Editor of FLIGHT, who will be pleased to publish such communications on this page, in order to bring together those who would like to co-operate, either in forming gliding clubs or in private collaboration.

UNDER the Official Notices of the Royal Aero Club on p. 292 of this week's issue of FLIGHT will be found the announcement that it has been decided to hold a handicap race for light 'planes at Lympne on August Bank Holiday, in connection with the Aerial Derby, which is being held there on that day. It will be noted that the engine capacity has been limited to 1,100 c.c., so that although nothing but real light 'planes is admitted, the new two-seaters for this year's competitions will be eligible if any of them be ready in time.

As several of the machines being built for the Air Ministry tests at Lympne in September are now well on the way, it may be assumed that quite a goodly number will be ready in time to make their first public appearance at the August Bank Holiday meeting, a little more than a month before the main competition. Thus the public visiting Lympne for the Aerial Derby will have an opportunity of seeing some of the latest light 'planes compete in a handicap race. The fact that the race is to be a handicap will, of course, mean that last year's single-seaters with less than 750 c.c. engines are qualified for taking part, and it is to be hoped that many of these will be resurrected for the occasion, as the public has had relatively small chance of watching their performance. Incidentally, it should be interesting to note the difference in performance between the single-seaters with 750 c.c. engines and this year's two-seaters with 1,100 c.c. engines. Probably there will not be a great deal to choose, in point of speed, between the two types.

LAST week we mentioned that it was rumoured that the Air Ministry was about to relax the rules relating to ground engineers' examination of privately-owned aeroplanes not carrying passengers for hire. So far there has been no official statement made on the subject, but it is believed that, for once, rumour is not lying, and that a decision may soon be expected. We have already urged this course so often and so persistently that there is little need to go through the whole argument again. We have, however, received from a correspondent the following letter: "Anyone may drive a ramshackle road vehicle through a town, which is of far greater danger to the public than flying a similar aeroplane over open country. If the steering of a car fails there is every chance of someone being damaged, while the driver remains unhurt; if the aeroplane controls fail there is every chance of the pilot being killed, and very little chance of anyone else being hurt.

"Taking an average over the United Kingdom and a machine crashing on to an area of 20 square yards, 500 amateurs would be killed to every one of the public; if flying over towns of any size were prohibited, the ratio would be, say, 1,000 to 1. Assuming that 100 reckless amateurs were killed off before the others became more careful, it would mean the sacrifice of one-tenth of a life of one of the public. Now aviation stands to gain new ideas from these same amateurs (reckless or otherwise); is it therefore wise to suppress the amateur for the sake of one-tenth of a life and a few shillingsworth of property (for a ploughed field is not easily damaged)?"

"The cases of the road vehicle and aeroplane are not, of course, comparable on quite the same basis, but then the incentive to being careful is much greater in the air. There certainly seems to be a strong case for prohibiting flying over towns. Much of the flying would probably be in the vicinity of towns where the population is thicker and where the above figures would not apply; yet the above, I think, indicates roughly the position."



Aumont-Thiéville Balloon Race.

THE French long-distance balloon race for the Aumont-Thiéville Cup, in which 11 competitors started from St. Cloud on May 17, was won by the Belgian aeronaut, Demuyter. He landed at Ely, having thus covered a distance of 407 km. (254 miles) in 21 hours. One of the French balloons was

OUR correspondent's letter refers particularly to the second paragraph in last week's Light 'Plane and Glider Notes, in which we said: "Naturally we do not suggest that any amateur should be given a free hand to build a machine out of any sort of junk he could pick up, and then go flying across country to the risk of everything and everybody below, but responsible firms could, we strongly maintain be given quite a free hand."

* * *

WE are inclined to agree with our correspondent that the risk to property, or third party risks, are probably not very great. Nevertheless, it is undesirable to let people fly quite indiscriminately, as accidents are then bound to occur which, even if involving nobody but the occupants of the machine, will inevitably do harm to the cause. Every serious aeroplane accident, whether to service, commercial or private machines, is made the most of by the sensational press, and the public cannot be expected to differentiate between the different types. The amateur experimenter can do pretty well as he likes within three miles of an aerodrome, and it should be possible, with the aid of a little goodwill on all sides, to make arrangements for privately-built machines to be inspected when the time comes for the constructor to want to use it for cross-country work. We are as anxious as anybody to see the hampering restrictions removed, but we are even more anxious to guard the good name of flying against such distrust, or even hostility, as would be created by a series of accidents to amateur-built machines. The whole question of amateur construction was fully dealt with in our issue of November 22, 1923, and after consulting all the firms which have built light 'planes as to the feasibility of building light 'planes from parts supplied by professional constructors, the opinion was unanimous that such procedure was not advisable, mainly on account of the impossibility of proper supervision during construction. If that was the case with machines which it was suggested should be built from standard parts made by experienced designers and constructors, how much more would it apply to machines built of inferior materials put into designs often of doubtful aerodynamic properties?

* * *

WITH reference to the light 'plane competition to be held at Lympne in September, under the competition rules of the Royal Aero Club, there seems to be good reason to expect a very representative entries list. At the moment of writing it is not, of course, possible to state definitely the number of firms who will be entering machines, but some of the machines are already well under way. Thus, the A.N.E.C. monoplane designed by Mr. Shackleton before he transferred his activities to Beardmores is well advanced, while it is known that Mr. Shackleton has designed another machine for his new firm. With Captain Barnwell back it is scarcely to be doubted that at least one "Bristol" light 'plane will be forthcoming, and last year's success at Lympne should encourage the English Electric Company to let Mr. Manning produce at least one machine for this year's trials. The de Havilland 53 will certainly have a two-seater "brother."

* * *

ALTHOUGH very busy in other directions, it is hoped that Mr. Folland will be able to find time to produce a two-seater this year. His engine of last year never gave the Gloucestershire "Gannet" a chance to show what she could do. As speed range is the feature aimed at, it would seem highly probable that Mr. Handley Page will come forward with a slotted wing machine. The excellent results obtained last year with the Parnall "Pixie" should ensure that Mr. Bolas has a machine or two at Lympne in September, and it is believed that Short Brothers will have a machine of unusual construction in the competitions. It also seems more than likely that Mr. Rex Pierson will be producing a two-seater successor to the Vickers "Viget," so that altogether the week at Lympne in September should be an interesting one, especially as probably several other aircraft firms will decide to build machines for the competitions.

caught in a storm and nearly came down in the Solent. M. Boitard, one of the occupants, jumped into the sea, in order to lighten the balloon, and attempted to swim ashore. He was rescued by a coastguard's boat and taken to Milford Hospital. The balloon, containing the pilot, M. Denis, rose again and eventually landed at Houghton.

THE ROYAL AIR FORCE

London Gazette, May 13, 1924

General Duties Branch

Flight-Lieut. C. Boumphrey, D.F.C., is granted a permanent commn. in the rank stated (May 14); R. S. Barbour is granted a short service commn. as Flying Officer, with effect from, and with seny. of May 1; Flight-Lieut. L. J. Killmayer, M.B.E., is placed on the retired list (May 14); Sqdn. Leader R. Hutton is transferred to the Reserve, Class C (May 16).

Medical Branch

Flight-Lieut. W. D. Miller, M.B., is transferred to Res., Class D, 2 (May 15).

Reserve of Air Force Officers.

The following are granted commns. on probation in General Duties Branch,

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the R.A.F. are notified:—

General Duties Branch

Wing Commander: G. R. Bromet, D.S.O., O.B.E., to H.Q. Mediterranean for Air Staff duties with C. in C. Mediterranean Fleet. 9.5.24.

Flight Lieutenants: J. E. B. B. Maclean, D.S.C., and A. L. Russell, to R.A.F. Depot (Non-effective Pool) on transfer to Home Estab. 24.4.24. D. W. King, to H.Q., Iraq. 26.3.24. H. G. R. Malet, to R.A.F. Base, Gosport (No. 420 Flight). 17.4.24. O. R. Gayford, D.F.C., to No. 29 Sqdn., Duxford. 22.5.24. E. P. Hardman, D.F.C., to No. 1 Flying Training Sch., Netheravon. 16.5.24.

Flying Officers: L. A. W. Deane, to No. 99 Sqdn., Bircham Newton. 3.6.24. E. H. Rundle, to No. 2 Flying Training Sch., Duxford. 22.5.24. D. S. Cairnes, to No. 111 Sqdn., Duxford. 10.5.24. C. W. Dann, M.C., to Schl. of Army Co-operation, Old Sarum. 19.5.24. J. de la P. Preston, to Station Commandant, Iraq. 26.4.24. C. Sutton, to Basrah Group H.Q. 28.4.24.

Pilot Officers: T. W. G. Cattell, to No. 29 Sqdn., Duxford. 16.5.24. F. S. Henderson, to No. 30 Sqdn., Iraq. 9.4.24.

in ranks stated (May 13):—**Class A.**—**Flying Officer.**—G. H. Wenn. **Pilot Offrs.**—J. J. Scholes, W. E. Taylor.

The following Officers are confirmed in rank, with effect from dates indicated:—**Flying Offrs.**—F. W. Knox (Nov. 8, 1923); J. W. Thomson (April 16); J. S. Stubbs, D.F.C., A.F.C. (April 18); J. P. Morkham, D.F.C. (April 23); L. A. Lewis (May 13). **Pilot Offrs.**—A. E. Roberts (April 8); H. J. L. Jones (April 12); E. A. Burbidge (April 17); E. J. Wing (April 18); W. A. Rollason (May 5); H. H. Perry (May 6).

Observer. Offr. F. W. Brown is transferred from Class B to Class C (Feb. 17); **Flying Offr.** C. B. J. Lancaster resigns his commn. (March 4).

Memorandum.

Lieut. H. B. Shephard, half-pay list, Army, is granted rank of Capt., R.A.F., on retirement from the Army (May 7).

Stores Branch

Flight Lieutenants: W. Sutherland, M.B.E., to No. 1 Schl. of Tech. Training (Boys), Halton. 20.5.24. A. Garrity to Air Ministry. 3.6.24.

Flying Officers: K. Craig, to No. 5 Flying Training Sch., Shotwick. 3.6.24. H. F. Webb, to No. 5 Flying Training Sch., Shotwick. 26.5.24. E. F. Elliott, to No. 13 Sqdn., Andover. 26.5.24. J. H. P. Clarke, to No. 31 Sqdn., India. 15.3.24. F. A. R. Smith, to No. 5 Sqdn., India. 15.3.24. F. M. Gingold (Accountant), M.B.E., to H.Q., Egypt. 25.4.24.

Medical Branch

Flight Lieutenants: J. C. Osburne, M.B., to Baghdad Combined Hospital, Iraq. 23.4.24. J. Prendergast, M.B., B.A., to Aircraft Depot, Iraq. 19.2.24. J. D. Leahy, M.C., M.B., B.A., to Aircraft Depot, India. 15.4.24. A. E. Jenkins, to No. 12 Sqdn., Andover. 1.4.24.

Flying Officers: F. K. Wilson, M.B., to Basrah Combined Hospital, Iraq. 11.4.24. T. V. O'Brien, M.B., to H.Q., Egypt. 9.5.24. T. Glynn, M.B., to R.A.F. Base, Leuchars. 2.5.24. R. L. C. Fisher, M.B., to R.A.F. Depot. 19.5.24. G. P. O'Connell, M.B., to R.A.F. Depot. 15.5.24.

IN PARLIAMENT

British Airship Service and Government Proposals

LIEUT.-COLONEL SIR S. HOARE on May 14 asked the Prime Minister whether he could make a statement of the Government's policy in connection with airships?

The Prime Minister: After careful examination His Majesty's Government have decided to reject the scheme put forward by the Airship Guarantee Company—commonly known as the Burney scheme. In their opinion this scheme would have entailed the creation of a virtual monopoly, and contained a number of other features which are open to objection both on financial and technical grounds. At the same time, His Majesty's Government share the view of their predecessors that it is essential to carry into effect as early as possible a constructive programme of airship development. They propose, accordingly, to authorise the Air Ministry to initiate forthwith a comprehensive programme of lighter-than-air research and experiment at Cardington, including full-scale experiments with one of the existing ships, which will be reconditioned for the purpose, and to undertake the early construction of a new airship of a capacity of 5,000,000 cubic feet. Further, the Air Ministry will undertake the construction of a terminal and an intermediate base overseas, with the necessary facilities to enable these two ships to be operated with safety between England and India. Simultaneously, the Air Ministry will give the Airship Guarantee Company the first offer of a contract for the construction of a second ship for commercial purposes. It is proposed that this contract shall include a clause under which the constructors will be permitted to repurchase the ship from the Air Ministry at a reduced figure on completion of satisfactory flying trials, provided—

- (1) that it is to be operated in connection with an approved British commercial airship service; and
- (2) that it shall be available for use by the State as required.

By these means private initiative will be linked with lighter-than-air development from the start, and, in the event of success, the early inauguration of commercial airship services open to all firms likely to be interested will be facilitated. At the same time, this second vessel will provide the nucleus of a reserve of personnel and material. Such a reserve will be essential if, as is hoped, airships prove capable of fulfilling certain important defensive functions—a development from which material economies in other forms of defence expenditure may ultimately result.

These proposals should enable two airships to be placed in commission in a shorter period than under the original scheme, since the Government and commercial vessels will be laid down simultaneously. They will, moreover, result in the maintenance of two separate airship manufacturing plants and other ground facilities on a scale which will admit of rapid expansion. Further, the valuable existing airship stations at Cardington and Pulham will remain State property, instead of passing into private hands, whilst ownership of the new bases to be constructed overseas will also be vested in the State.

As regards the financial aspect, under these proposals it will not be necessary to incur from the outset the very heavy commitments—amounting to a total sum of £4,800,000 over a period of 15 years—which would be involved by the original scheme.

A three years' programme only will be authorised in the first instance, and no decision will be necessary as to further development until this programme is nearing completion, when much fuller data will be available than at present. It is estimated that, allowing for the repurchase of the second ship by its constructors, the net expenditure involved in 1924-25, 1925-26 and 1926-27 will not exceed £1,200,000.

A supplementary estimate in respect of the sum required for this service in the current year will be laid before the House at an early date. My noble friend, the Secretary of State for Air, will make a fuller statement on this subject on Wednesday, the 21st instant, in another place.

Sir S. Hoare: Is the Prime Minister aware that the estimate of £4,000,000 which he has just quoted was for six airships and not for two and, therefore, the figures he has given are not comparable at all. Further, whilst obviously we cannot go into details today upon this question, will the right hon. gentleman arrange for the supplementary estimate to be taken as early as possible so that we shall have an opportunity of debating the statement which he has just made, without any delay.

The Prime Minister: I think the latter part of the question is, perhaps, the more important, namely, that the supplementary estimate should be put down at an early date. It is quite obviously impossible to discuss this matter or in fact to give very much more information on this matter by question and answer. I should like to say, however, that it is perfectly true that the

£4,800,000 was for the construction, as it was hoped, of six airships, all of which would belong to private companies at the end, whereas our scheme, I think, is much better financially than that. Still, that is a matter which will have to be raised on the supplementary estimate.

Arising out of this, Mr. Tom Johnston then raised the question of the information which had appeared in *The Times* on May 14, and complained of Cabinet decisions being conveyed in that way before the House of Commons had learned the facts, and the Prime Minister declared that he considered the practice most reprehensible. Commander Burney explained the circumstances, and the matter then dropped.

Aircraft Speed

MR. BECKER, on May 16, asked the Under-Secretary of State for Air if his attention has been drawn to the great speeds of which foreign aeroplanes are capable; if we have any aeroplanes which are capable of speeds exceeding 160 m.p.h.; if so, how many different types; and what is the total number of aeroplanes in commission which can fly at these speeds?

The Under-Secretary of State for Air: My attention has been drawn to a statement in the Press to the effect referred to, but it would not be in the public interest to make an official pronouncement in regard to its accuracy, or to give the information requested.

Mr. Becker: Does that mean that we have no aeroplanes that can fly at these speeds?

Mr. Leach: Nothing of the sort.

Colonel Gretton: Can the hon. gentleman say whether we have aeroplanes capable of flights at the speed attained by aeroplanes belonging to other nations?

Mr. Leach: I am not prepared to answer that question, but the hon. Member ought not to disturb himself about it.

Sir F. Hall: Does the hon. Member recognise that the reason why we are disturbed on this side of the House is because we know the feelings of the hon. Member in regard to the matter.

Air Force Stations and Portsmouth

SIR T. BRAMSDON asked the Under-Secretary of State for Air if the erection of a new aircraft station on the south coast is contemplated; and if, in view of the recent institution of the naval arm, he will investigate the advantages of building such a station or factory in the vicinity of Portsmouth, where land and dockyard assistance are available?

Mr. Leach: In answer to the first part of the question, no addition to the number of Air Force stations on the south coast is contemplated in the immediate future. As regards the second part, the hon. Member's suggestion will be borne in mind if and when the question of the establishment of an additional station arises.

Admiralty and Air Board

COMMANDER BELLAIRS on May 19 asked the Prime Minister whether he could make a statement as to the arrangements come to on the matters in dispute between the Admiralty and the Air Board on which inquiry has taken place?

The Prime Minister: Satisfactory progress has been made. The Admiralty, after consultation with the Air Ministry, have issued a Fleet Order calling for volunteers from the Navy for Fleet air work in which the conditions of service are set forth. Conversations are taking place between the two Departments on certain questions of detail.

Airships Contract

SIR S. HOARE asked the Prime Minister whether he will immediately circulate as a White Paper the contract signed between the Government and a commercial group with reference to the construction of our airships?

Mr. Leach: I have been asked to reply. The contract has not yet been signed, but agreement with the Airship Guarantee Company has been reached on all points of substance and the draft is being submitted to the legal advisers on both sides. I should perhaps point out that, as provision for the development of airships was omitted from the Air Estimates pending a decision by the Government on the policy to be adopted, the contract will not be signed until the necessary Supplementary Estimate has been taken. The Secretary of State for Air proposes to give a full account of the Government proposals on Wednesday in another place, and I shall, of course, in introducing the Supplementary Estimate, be prepared to give this House any further details in my power.

At the State Ball, May 14

AMONGST those present at the State Ball held by Their Majesties the King and Queen at Buckingham Palace on May 14, were Air Chief-Marshal Sir Hugh Trenchard (Principal Air Aide-de-Camp), Wing Commander Louis Greig, Aviateur Chevalier Willy Coppens (Belgian Air Attaché), Capt. Silvio Scaroni (Italian Air Attaché), Commander Don Edgardo von Schroeders (Chilian Air Attaché), Capt. Juan Leguia y Swayne (Peruvian Air Attaché), the Right Hon. Sir Samuel Hoare, Air Marshal Philip Game, Air Marshal H. R. Brooke-Popham, Air Marshal Sir J. M. Salmond, Air Marshal Sir I. L. B. Vesey, Air Marshal Sir Vyell Vyvyan, Air Commodore L. E. O. Charlton, Air Commodore C. L. Lambe, Air Commodore C. A. H. Longcroft, Air Commodore D. le G. Pitcher, Air Commodore J. M. Steel, Group Captain J. L. Forbes, Group Capt. C. F. Kilner, Squadron Leader R. M. Drummond, Flight-Lieut. E. J. P. Burling, Flight-Lieut. W. F. Dickson, Flight-Lieut. R. E. Meek, Flight-Lieut. H. M. Massey, Flight-Lieut. C. H. Stitwell, etc.

Aerial Photography Courses

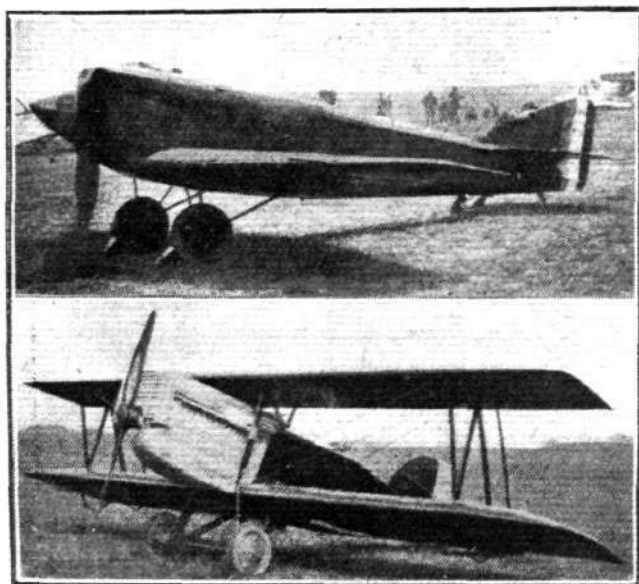
A SERIES of ten courses in the interpretation of aerial photographs are to be held at the R.A.F. School of Photography, Farnborough, for Army and R.A.F. officers. The object of the courses is to train one officer in each regiment of cavalry, brigade of artillery, divisional engineers, battalion of infantry, and tank battalion of the Regular Army to a standard which will enable him to act as an instructor to his unit. Vacancies will be allotted to commands at home in proportion to the number of regular units in each. It is intended that only one officer from each station abroad shall be trained at Farnborough, and that, on his return to his station, he shall hold local courses for the training of officers from all other units in the station.

New York-San Francisco Air Mail

THE United States Postal Department has decided to run a regular daily right-through air mail service between New York and San Francisco, commencing on July 1. This decision is probably the result of last year's night-flying experiments, for it is intended that the night-flying section between Chicago and Cheyenne shall be permanently equipped with lighthouses and other facilities, and put into actual operation for the new service. Such a service will enable mails to be carried between New York and San Francisco in from 26 to 30 hours.

Bossoutrot's Altitude Record

BOSSOUTROT, the French airman, flying a Farman aeroplane with a Farman 600 h.p. engine, on May 17 established an altitude "record" for a machine carrying a load of 3,000 kilogrammes by attaining an altitude of over 2,000 metres (6,562 ft.).



TWO INTERESTING "ST. LOUIS" MACHINES: We show above two of the many types of machines that took part in the 1923 St. Louis Air Races. Top, the Verville-Sperry cantilever monoplane, 500 h.p. Curtiss D.12 special engine, which was entered by the U.S. Army in the Pulitzer Race. Below, the C.O.5 (400 h.p. Liberty), a modification of the Fokker D.VII built by the U.S. Army Air Department at McCook Field. It obtained third place in the Liberty Engine Builders' Trophy Race.

SOCIETY OF MODEL AERONAUTICAL ENGINEERS

BRIGHT sunshine last Sunday morning encouraged quite a large gathering at Sudbury, though an unfavourable and rather strong wind was not conducive to good flying.

The first event, the "Weston Challenge Cup," was won by Mr. Landown with a flight of 22½ secs. Mr. F. De P. Green was second and Mr. B. K. Johnson third. There were eight competitors.

By the time the "Model Engineer" No. 1 Competition commenced the weather had become quite boisterous, and Mr. Green's winning flight of 25 secs. was, under the circumstances, extremely good. Mr. Gray was a close second and Mr. Hirsom third.

And then the rain came, and the K. and M.A.A. Competition, was postponed until 3.30 p.m. on the afternoon of Saturday May 31.

A. E. JONES, Hon. Sec.

PUBLICATIONS RECEIVED

Berichte und Abhandlungen, Vol. II. March, 1924. R. Oldenberg, Gluckstrasse 8, Munich, Germany. Price: Marks, 8-50.

Die Deutsche Wehrmacht in Wort und Bild. By M. Schwarte, Generallt. a.D. Offene Worte, Dahlmannstr. 5, Charlottenburg 4, Germany. Price: Marks 25.

Aeronautical Research Committee, Reports and Memoranda: No. 889 (Ae. 119).—Experimental Tests of the Vortex Theory of Aerofoils. By H. Glauert. November, 1923. Price 9d. net. No. 890 (Ae. 120).—Scale Effect on Struts and Drag of Wiring Plates of a Bristol Fighter: Correction of Model Tests for Comparison with the Full Scale. By F. B. Bradfield. November, 1923. London: H.M. Stationery Office, Kingsway, W.C. 2.

Memoirs of Brigadier-General Gordon Shephard, D.S.O., M.C. Edited by Shane Leslie. Privately printed.

British Industries Fair, 1924. April 28-May 9. Department of Overseas Trade, 35, Old Queen Street, London, S.W.1. Price 1s.

Mūsų Zinynas, No. 17. 1924. Musu Zinynas, Karo Skyrius, Kaunas.

Report on the Health of the Royal Air Force for the year 1922. Air Publication 984. London: H.M. Stationery Office, Kingsway, W.C.2. Price 3s. net.

A Handbook for Oxv-Acetylene Welders. By Leonard M. Fox, M.I.Mech.E. Allen-Liversidge, Ltd., 106, Victoria Street, London, S.W.1. Price 1s. 6d.

Catalogue

British Machine Tools, Wood-Working Machinery, Engineers' Small Tools, etc. Machine Tool Trades Association, 70, Victoria Street, London, S.W.1. Price 10s. 6d.

AERONAUTICAL PATENT SPECIFICATIONS

Abbreviations: cyl. = cylinder; I.C. = internal combustion; m. = motor. The numbers in brackets are those under which the Specifications will be printed and abridged, etc.

APPLIED FOR IN 1922

Published May 22, 1924

31,721. J. E. EAGLES. Landing-platforms for flying-machines. (214,673.)

APPLIED FOR IN 1924

Published May 22, 1924

- 111. R. D. and D. BAILEY. Sky-writing. (214,685.)
- 2,468. B. CONKLIN. Rotary engines. (214,729.)
- 3,144. H. C. WATTS and H. LEITNER. Screw propellers. (214,746.)
- 3,642. A. R. MUNYARD. Balancing devices for aircraft. (214,759.)
- 10,217. A. H. R. FEDDEN, L. F. G. BUTLER and BRISTOL AEROPLANE CO., LTD. Engine lubrication. (214,820.)
- 13,096. BOULTON AND PAUL, LTD., and J. D. NORTH. Struts, etc. (214,846.)
- 13,097. BOULTON AND PAUL, LTD., and J. D. NORTH. Spars. (214,847.)
- 18,876. A. J. ROWLEDGE and ROLLS-ROYCE, LTD. Epicyclic variable-speed gearing for aero-engines. (214,891.)

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